

CLAIMS

WE CLAIM:

- 5 1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 2-3, 5, the translated protein coding portion thereof, the mature protein coding portion thereof, the extracellular portion thereof, or the active domain thereof.
- 10 2. An isolated polynucleotide encoding a polypeptide with biological activity, said polynucleotide having greater than about 98% sequence identity with the polynucleotide of claim 1.
3. The polynucleotide of claim 1 which is a DNA sequence.
- 15 4. An isolated polynucleotide which comprises the complement of the polynucleotide of claim 1.
5. A vector comprising the polynucleotide of claim 1.
- 20 6. An expression vector comprising the polynucleotide of claim 1.
7. A host cell genetically engineered to express the polynucleotide of claim 1.
- 25 8. The host cell of claim 7 wherein the polynucleotide is in operative association with a regulatory sequence that controls expression of the polynucleotide in the host cell.

9. An isolated polypeptide comprising an amino acid sequence which is at least 95% identical to the amino acid sequence selected from the group consisting of SEQ ID NO: 4 and 6 or the translated protein coding portion thereof, the mature protein coding portion thereof, the extracellular portion thereof, or the active domain thereof.

5

10. A composition comprising the polypeptide of claim 9 and a carrier.

11. A polypeptide, having cadherin-like activity, comprising at least twenty consecutive amino acids from the polypeptide sequences selected from the group consisting of SEQ ID NO: 4 and 6-15.

12. The polypeptide of claim 11, comprising at least twenty five consecutive amino acids from the polypeptide sequences selected from the group consisting of SEQ ID NO: 4 and 6-15.

13. A polynucleotide encoding a polypeptide according to claim 11.

14. A polynucleotide encoding a polypeptide according to claim 12.

15. A polynucleotide encoding a polypeptide according to claim 9.

16. An antibody specific for the polypeptide of claim 9.

17. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide of claim 1 for a period sufficient to form the complex; and

b) detecting the complex, so that if a complex is detected, the polynucleotide of claim 1 is detected.

18. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

- a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to the polynucleotide of claim 1 under such conditions;
- b) amplifying a product comprising at least a portion of the polynucleotide of claim 1; and
- c) detecting said product and thereby the polynucleotide of claim 1 in the sample.

19. The method of claim 18, wherein the polynucleotide comprises an RNA molecule and the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.

20. A method for detecting the polypeptide of claim 9 in a sample, comprising:

a) contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex; and

b) detecting formation of the complex, so that if a complex formation is detected, the polypeptide of claim 9 is detected.

25

21. A method for identifying a compound that binds to the polypeptide of claim 9, comprising:

- a) contacting the compound with the polypeptide of claim 9 under conditions and for a time sufficient to form a polypeptide/compound complex; and

b) detecting the complex, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 9 is identified.

22. A method for identifying a compound that binds to the polypeptide of claim 9, comprising:

a) contacting the compound with the polypeptide of claim 9, in a cell, for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and

b) detecting the complex by detecting reporter gene sequence expression, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 9 is identified.

23. A method of producing a cadherin-like polypeptide, comprising,

a) culturing the host cell of claim 7 under conditions sufficient to express the polypeptide in said cell; and

b) isolating the polypeptide from the cell culture or cells of step (a).

24. A kit comprising the polypeptide of claim 9.

25. A nucleic acid array comprising the polynucleotide of claim 1 or a unique segment of the polynucleotide of claim 1 attached to a surface.

26. The array of claim 25, wherein the array detects full-matches to the polynucleotide or a unique segment of the polynucleotide of claim 1.

27. The array of claim 25, wherein the array detects mismatches to the polynucleotide or a unique segment of the polynucleotide of claim 1.

28. A method of treatment of a subject in need of enhanced activity or expression of cadherin-like polypeptide of claim 9 comprising administering to the subject a composition selected from the group consisting of:

- (a) a therapeutic amount of an agonist of said polypeptide;
 - 5 (b) a therapeutic amount of the polypeptide; and
 - (c) a therapeutic amount of a polynucleotide encoding the polypeptide in a form and under conditions such that the polypeptide is produced,
- and a pharmaceutically acceptable carrier.

10

29. A method of treatment of a subject having need to inhibit activity or expression of cadherin-like polypeptide comprising administering to the subject a composition selected from the group consisting of:

- (a) a therapeutic amount of an antagonist to said polypeptide;
 - 15 (b) a therapeutic amount of a nucleic acid molecule that inhibits the expression of the nucleotide sequence encoding said polypeptide; and
 - (c) a therapeutic amount of a polypeptide that competes with the cadherin-like polypeptide for its ligand
- 20 and a pharmaceutically acceptable carrier.